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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,020	11/20/2001	Pasi Tikka	297-010713-US(PAR)	9492

2512 7590 08/13/2003

PERMAN & GREEN  
425 POST ROAD  
FAIRFIELD, CT 06824

EXAMINER
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SUMMONS, BARBARA

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/989,020

Applicant(s)

TIKKA ET AL.

Examiner

Barbara Summons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 8-19, 21-31, 33-39 and 42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 8-18, 21-31, 34-36, 38, 39 and 42 is/are allowed.
- 6) ☒ Claim(s) 6, 19, 33 and 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

1. Applicants' amendment received 5/30/03 has overcome all prior rejections and objections.

### ***Claim Objections***

2. Claim 11 is objected to because of the following informalities:

In claim 11, on line 20 thereof, note that "end" should be followed by - - of - -.

Appropriate correction is required.

3. Claim 36 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

It should be noted that the subject matter of claim 36 appears in claim 34 in the last paragraph thereof. Therefore, claim 36 does not further limit its parent claim 34.

### ***New Grounds of Claim Rejections - 35 USC § 112, first paragraph***

4. Claim 33 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one

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skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 33 recites that the "first and second piezoelectric resonators are surface acoustic wave resonators formed on separate blocks of a patterned layer of piezoelectric material" (see the last four lines of the claim). However, there appears to be no support in the original specification for "surface acoustic wave filters" to be formed on a patterned piezoelectric layer. There is only support in the original specification for bulk acoustic wave resonators (BAWs) to be formed on a patterned piezoelectric layer (see Figs. 13a and 13b and the paragraph bridging pages 19 and 20 of the original specification). Furthermore, the specification discloses surface acoustic wave (SAW) resonators being formed on a substrate "formed of a piezoelectric crystal" (see pg. 20, lns. 12-14 of the original specification), not on a "patterned layer of piezoelectric material". Consequently, it appears Applicants have amended claim 33 by inserting subject matter which can be construed as new matter.

However, if Applicants disagree that the above noted subject matter is "new matter", then Applicants are required to provide an explanation as to why these limitations should not be considered "new matter", as well as providing the location(s) in the original specification where there is support for the subject matter in question.

***New Grounds of Claim Rejections - 35 USC § 112, second paragraph***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6, 19 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is unclear because it recites that the filter structure is "a ladder filter structure" when claim 1 has previously recited that the filter structure is "a lattice filter structure" (see the last two lines of claim 1). Therefore, it is unclear if the filter has a ladder structure (see e.g. Applicants' Fig. 10) or a lattice structure (see e.g. Applicants' Fig. 12).

Similarly, claim 19 recites the filter has "a ladder filter structure", but claim 14 has previously recited that the filter has "a lattice filter structure" (see claim 14, the last two lines thereof).

Claim 37 is unclear as to what type of resonators the first and second resonators are, because it recites that the "first and second piezoelectric resonators are surface acoustic wave resonators" when claim 34 has previously recited that the "first and second piezoelectric resonators are bulk acoustic wave resonators" (see the last paragraph of claim 34).

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Summons whose telephone number is (703) 308-4947. The examiner can normally be reached on M-Th, M-Fr.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink that reads "Barbara Summons". The signature is written in a cursive style with a long horizontal line extending to the right.

bs  
August 8, 2003

Barbara Summons  
Primary Examiner  
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